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# Effects of Personal Characteristics on Learner Online Learning Readiness

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# Effects of Personal Characteristics on Learner Online Learning Readiness

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## ABSTRACT

Nowadays many educational institutions have embraced online education to cater for flexible and student-centered learning. Through online education, students have an opportunity to gain an education at their own convenience, in terms of time and place. However, it is argued that students are less satisfied with online learning than with traditional classroom learning. As online education continues to expand, the need for determining and maintaining quality online education is becoming an important issue. Therefore, it is important to discern which qualities are necessary for students' achievement and satisfaction in an online learning environment (OLE). While numerous studies on the qualities of online learners have been conducted, the factors that contribute to success in OLEs have not been adequately described. Therefore, it is important to examine learner characteristics to see their effects on student success in an online environment, which in turn facilitates high quality of online learning. This paper reports on what and how personal characteristics significantly affect students' online learning readiness at Curtin University of Technology, Sarawak Malaysia. Natural sampling was used to identify the sample and the study sample consisted of 350 voluntary participants. Quantitative method was used to collect relevant data in this study. A questionnaire was developed to gather data on learner personal characteristics, and a diagnostic tool, Tertiary Students' Readiness for Online Learning (TSROL), developed by Hitendra Pillay, Kym Irving and Megan Tones was adopted to assess learner online learning readiness. The TSROL has 20 items grouped into four factors: Technical skills (TS), Computer self-efficacy (CS-E), Learning preferences (LP) and Attitudes towards computers (AC). Moreover, confirmatory data analysis was adopted in this study. A one- way analysis of variance (ANOVA) was used to determine if there were significant differences in online learning readiness across the personal characteristics. The statistical results validate that some personal characteristics significantly affect learners' online learning readiness.

**Keywords:** Online learning; E-learning; Student readiness; Online student characteristics; Online student success

## INTRODUCTION

Advances in information technologies, such as the World Wide Web and online communication tools, have changed the face of education all the time, creating an anywhere-and-anytime learning environment. It provides easier and more convenient access for many students who are unable to attend traditional classes. In addition, the use of IT in teaching and learning is widely recognized as a major contributor to flexible, student-centered learning. Nowadays students are increasingly distributed globally and have very diverse learning needs and learning styles, so flexible online learning solutions are required to meet their needs. As distance education, especially online education, continues to expand, attention must be given to provide an insight into determining and maintaining quality in the process of designing, developing, and delivering online education. Several online distance-education courses failing to meet quality standards set by researchers and institutions were reported (Garrett 2004, Oliver 2005). Numerous studies have mentioned a broad range of factors that

may influence the quality of online learning experience. Student characteristics have been identified as one of the important considerations for quality online education.
While the study results in relation to online student success are sometimes conflicting, the concern for student success in online education continues to be a focus of research. This study analyzed the personal characteristics that affected online learning readiness, which is imperative to academic achievement and satisfaction within online learning environments, with regard to two main objectives. The first objective was to determine if there were significant differences in online learning readiness, in terms of technical skills, computer self-efficacy, learning preferences and attitudes towards computers, across the personal characteristics, based on the participants' gender, age, learning style, course year level and financial aid status. The second objective was to locate the source of the significant differences in online learning readiness.

**Research Questions:**

Will there be significant differences in online learning readiness, in terms of technical skills, computer self-efficacy, learning preferences and attitudes towards computers, across the personal characteristics, based on the participants' gender, ethnicity, learning style, course year level and financial aid status?
Where do the significant differences lie in online learning readiness?

In order to address the first research question, the following hypotheses were stated:
$H_1$: There will be significant differences in online learning readiness based on the participants' gender.
$H_2$: There will be significant differences in online learning readiness based on the participants' ethnicity.
$H_3$: There will be significant differences in online learning readiness based on the participants' learning style.
$H_4$: There will be significant differences in online learning readiness based on the participants' course year level.
$H_5$: There will be significant differences in online learning readiness based on the participants' financial status.

## LITERATURE REVIEW

Nowadays many educational institutions have embraced online education to cater for flexible and student-centered learning. Through online education, students have an opportunity to gain an education at anytime and in any place (Harrell 2006). Online learning environments (OLEs) vary depending on the design, technical infrastructure and pedagogical use, in terms of soundness and user friendliness, by educators (Pillay et al. 2007). However, recent evaluations of online learning argue that students are less satisfied with online learning than with traditional classroom learning (Summers et al. 2005), and such student dissatisfaction has the potential to affect attrition, resulting in lost time and funds to the institution and the student (Watkins et al. 2004). Therefore, it is important to discern which qualities are necessary for students' achievement and satisfaction in an online learning environment.

Current definitions of online learning readiness focus on the ability to manage time and adapt to the self-directed nature of online learning, including understanding personal learning styles and experiences (Pillay et al. 2007). Self-directed learners have "the skills to access and process the information they need for a specific purpose" (Connor 2004). The readiness of learners must be taken into account in the move to online learning and it can be unwise for universities to impose online learning on students without first addressing their needs and concerns (Oliver 2001). It was revealed that only about 60% of university students reported the levels of skills and expertise in technology use required for self-sufficiency in online learning (Oliver & Towers 2000). Student's readiness is an imperative factor for participation in learning. It was suggested that one of the eight principles of learning is readiness (Moss 1987) and students will learn better if they are ready to learn.

The literature (CHEA 2002, Fresen 2005, Meyer 2002) has mentioned a broad range of factors (i.e., institution, technology, instructor, student, support system, and course structure) that can influence the quality of online learning experience. In other words, student characteristics are one of the important considerations for the quality of online learning. Student achievement has been found to be associated with qualities of individual learners (Regional Educational Laboratory 2008). Empirical evidence of student readiness in OLEs has revealed some personal qualities imperative to achievement and satisfaction within such environments (Lee et al. 2002). Some of the essential characteristics that affect student success in OLEs (i.e., gender, age, education level, and learning style) have been investigated in the literature (Yukselturk & Bulut 2007).

While numerous studies on the qualities of online learners have been conducted, the factors that contribute to success in OLEs have not been adequately described. Furthermore, recent evaluations of online learning have shown that students are frequently less satisfied with online learning than with traditional classroom learning (Summers et al. 2005). As online education continues to expand, the need for determining and maintaining quality in the process of designing, developing, and delivering online education is becoming an important issue (Yukselturk & Bulut 2007). Therefore, it is important to examine learner characteristics to see their effects on student success in an online environment, which in turn facilitates high quality of online learning.

## RESEARCH METHODOLOGY

Quantitative approach was adopted in this study. It can produce quantifiable, reliable data that are usually generalizable to some larger population (Weinreich n.d.). Reliability is one aspect of the credibility of the findings (Hussey & Hussey 1997: 57). The research methodology used in this study was survey whereby a sample of subjects was drawn from a population and studied to make inferences about the population. Group administered questionnaire was conducted in the classrooms, after class hours, where each respondent was handed an instrument and asked to complete it. If the respondents were unclear about the meaning of a question, they could ask for clarification.

### Participants

The study included 304 volunteer students who enrolled in different courses at Curtin University of Technology, Sarawak Malaysia in 2007. All students had an intermediate level of English. Table 1 presents the demographic characteristics of the students. The number of female students ($N$ = 163) was greater than the number of male students ($N$ = 141), and the majority of the students were Chinese ($N$ = 247). In addition, the majority of the students had a kinesthetic learning style ($N$ = 191) and no financial aid ($N$ = 228). 30.6% of these students enrolled in the 2$^{nd}$ year courses, followed by 25.3% in Pre-U courses.

*Table 1: The characteristics of the students*

| | *N* | *P* |
|---|---|---|
| **Gender** | | |
| Male | 141 | 46.4 |
| Female | 163 | 53.6 |
| **Ethnicity** | | |
| Chinese | 247 | 81.2 |
| Malay | 14 | 4.6 |
| Indian | 2 | 0.7 |
| Malaysian ethnic group | 24 | 7.9 |
| Others | 17 | 5.6 |
| **Learning style** | | |
| Auditory (learn by hearing) | 38 | 12.5 |
| Kinesthetic (learn by doing) | 191 | 62.8 |
| Visual (learn by seeing) | 75 | 24.7 |
| **Course year level** | | |
| Pre-U | 77 | 25.3 |
| 1st year | 64 | 21.1 |
| 2nd year | 93 | 30.6 |
| 3rd year | 46 | 15.1 |
| 4th year | 24 | 7.9 |
| **Financial aid status** | | |
| Yes | 76 | 25 |
| No | 228 | 75 |

*N*: Number of volunteer students, *P*: Percentage of volunteer students

## Variables

The independent variables in this study included gender, ethnicity, learning style, course year level, and financial aid status. Learning style was defined as the 'complex manner in which, and conditions under which, learners most efficiently and effectively perceive, process, store, and recall what they are attempting to learn' (James & Gardner 1995: 20). The Barsch Learning Style Inventory (Barsch 1996) was used to quantify learning style. Course year level is referred as the year level of a student enrolling in a course in 2007, while financial aid status is defined as if a student receives any financial aid for study.

The dependant variable in this study was online learning readiness, for which 4 major qualities were considered: Technical Skills (TS), Learning Preferences (LP), Computer Self-Efficacy (CS-E), and Attitudes towards Computers (AC). Generally these qualities may explain individual differences in academic achievement, completion rates and levels of satisfaction with online learning (e.g. Shih et al. 2006, Erlich et al. 2005, Summers et al. 2005). It is argued that 'online learners with relevant TS can achieve reasonable results, while students with lower levels of TS may either avoid the OLE or experience difficulty accessing course content' (Pillay et al. 2007). CS-E was defined as 'the learners' self-confidence in performing tasks and perceived ability to apply skills related to computers and other ICT technology' (Vuorela & Nummenmaa 2004a). Moreover, LP refers to self-management abilities (Loomis 2000) and levels of participation in online activities, such as discussion forum (Wang et al. 2004), which are crucial to online academic success. Again, AC was defined as 'student perceptions of ease of use and usefulness of technology' (Lee et al. 2002).

## Survey Instruments

The data collection instrument used in this study was a questionnaire, consisting of two sections and a total of 25 items.

*Section A:* Personal characteristics
This section was intended to collect data on the participants' personal details (i.e., gender, ethnicity, learning style, financial aid status, and course year level). It consisted of 5 items.
*Section B:* Tertiary Students' readiness for Online Learning (TSROL)
TSROL (Pillay et al. 2006) was adopted as a diagnostic tool to assess learner online learning readiness. According to Pillay et al. (2006), "the TSROL has 20 items grouped into four factors: Technical skills (TS), Computer self-efficacy (CS-E), Learning preferences (LP) and Attitudes towards computers (AC)". It was highly reliable with the scale reliabilities, as measured by Cronbach's alpha level, for the four factors were as follows: TS, 0.92; CS-E, 0.88; AC, 0.78; and LP, 0.55.

## Data Collection and Analysis

The students who agreed to participate in this study were distributed with questionnaires in the classrooms. Prior permission to contact the students to complete the study was obtained from the Ethic committee at Curtin University of Technology, Sarawak Malaysia. To encourage a better response rate, two follow-up emails were sent to the instructors, asking them to encourage their students to participate.

This study was designed to determine if there were significant differences in online learning readiness based on the participants' personal characteristics. The data were gathered through the use of questionnaires and entered into Microsoft Excel. Using the Statistical Package for the Social Sciences (SPSS), the data were imported from Microsoft Excel where the following descriptive statistics were used to describe the data: frequency distribution, means and standard deviations. A one-way analysis of variance (ANOVA) was used to determine if there were any significant mean differences between groups, based on gender, ethnicity, learning style, course year level and financial aid status, of any significant dependent variables, in terms of Technical Skills (TS), Computer Self-Efficacy (CS-E), Learning Preferences (LP), and Attitudes towards Computers (AC). Moreover, to locate where the significant differences lie, the Turkey HSD post-hoc analysis was adopted to hunt through the data. The data analyses of the study allowed the following to be determined:

the personal characteristics of the study population.
the determination of variables that were significant in online learning readiness.
if there were any significant mean differences of significant dependant variables based on participants' gender, ethnicity, learning style, course year level and financial aid status.

# RESULTS

## Descriptive Statistics

The following tables show the descriptive statistics of TSROL subscale scores, converted into 5-point Likert-type scale.

Table 2 shows the descriptive statistics (frequency distribution, mean, standard deviation, etc.) of the factors, technical skills (TS), computer self-efficacy (CS-E), learning preferences (LP), and attitudes towards computers (AC), of online learning readiness across the gender, "1" for male and "2" for female. It demonstrates that both male and female students tended to reflect an "agree" perspective towards CS-E (mean = 1.83278), AC (mean = 2.19243) and TS (mean = 2.47511). In addition, they tended to reflect an "undecided" perspective on LP, with the mean score 3.12389.

*Table 2: Descriptive statistics of online learning readiness across the gender*

| | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | | |
| Computer Self-efficacy | 1 | 141 | 1.89481 | .861557 | .072556 | 1.75136 | 2.03826 | 1.000 | 5.000 |
| | 2 | 163 | 1.77913 | .614454 | .048128 | 1.68409 | 1.87417 | 1.000 | 4.500 |
| | Total | 304 | 1.83278 | .740383 | .042464 | 1.74922 | 1.91634 | 1.000 | 5.000 |
| Learning Preferences | 1 | 141 | 2.95626 | 1.016471 | .085602 | 2.78701 | 3.12550 | 1.000 | 5.000 |
| | 2 | 163 | 3.26890 | .844217 | .066124 | 3.13832 | 3.39947 | 1.000 | 5.000 |
| | Total | 304 | 3.12389 | .939590 | .053889 | 3.01784 | 3.22993 | 1.000 | 5.000 |
| Attitudes towards Computers | 1 | 141 | 2.18262 | .785402 | .066143 | 2.05186 | 2.31339 | 1.000 | 5.000 |
| | 2 | 163 | 2.20092 | .697692 | .054647 | 2.09301 | 2.30883 | 1.000 | 4.500 |
| | Total | 304 | 2.19243 | .738482 | .042355 | 2.10909 | 2.27578 | 1.000 | 5.000 |
| Technical Skills | 1 | 141 | 2.40631 | .739747 | .062298 | 2.28315 | 2.52948 | 1.000 | 4.714 |
| | 2 | 163 | 2.53462 | .575929 | .045110 | 2.44554 | 2.62370 | 1.143 | 4.571 |
| | Total | 304 | 2.47511 | .659009 | .037797 | 2.40073 | 2.54949 | 1.000 | 4.714 |

Table 3 shows the descriptive statistics of the factors of online learning readiness across the ethnic groups, “1” for Chinese, “2” for Malay, “3” for Indian, “4” for Malaysian ethnic group, and “5” for Others. The descriptive statistics revealed that Chinese, Malay, Malaysian ethnic group and foreign students (others) had a “strongly agree” perspective about CS-E, with mean scores ranging from 1.54862 to 1.87719. In addition, the students tended to reflect an “agree” perspective on AC (mean = 2.19243) and TS (mean = 2.47511). However, they had an “undecided” perspective towards LP, with the mean score 3.12389.

*Table 3: Descriptive statistics of online learning readiness across the ethnic groups*

| | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | | |
| Computer Self-efficacy | 1 | 247 | 1.87719 | .722144 | .045949 | 1.78669 | 1.96769 | 1.000 | 4.667 |
| | 2 | 14 | 1.80957 | .942518 | .251899 | 1.26538 | 2.35377 | 1.000 | 4.667 |
| | 3 | 2 | 2.00000 | .236174 | .167000 | -.12194 | 4.12194 | 1.833 | 2.167 |
| | 4 | 24 | 1.54862 | .600826 | .122643 | 1.29492 | 1.80233 | 1.000 | 3.833 |
| | 5 | 17 | 1.58818 | .948520 | .230050 | 1.10049 | 2.07586 | 1.000 | 5.000 |
| | Total | 304 | 1.83278 | .740383 | .042464 | 1.74922 | 1.91634 | 1.000 | 5.000 |
| Learning Preferences | 1 | 247 | 3.07555 | .935665 | .059535 | 2.95829 | 3.19282 | 1.000 | 5.000 |
| | 2 | 14 | 2.95236 | .702328 | .187705 | 2.54684 | 3.35787 | 1.000 | 4.000 |
| | 3 | 2 | 3.00000 | .000000 | .000000 | 3.00000 | 3.00000 | 3.000 | 3.000 |
| | 4 | 24 | 3.27783 | 1.056020 | .215559 | 2.83192 | 3.72375 | 1.000 | 5.000 |
| | 5 | 17 | 3.76465 | .847862 | .205637 | 3.32872 | 4.20058 | 1.667 | 5.000 |
| | Total | 304 | 3.12389 | .939590 | .053889 | 3.01784 | 3.22993 | 1.000 | 5.000 |
| Attitudes towards Computers | 1 | 247 | 2.25304 | .739933 | .047081 | 2.16030 | 2.34577 | 1.000 | 5.000 |
| | 2 | 14 | 2.10714 | .560857 | .149895 | 1.78331 | 2.43097 | 1.250 | 3.000 |
| | 3 | 2 | 2.25000 | .000000 | .000000 | 2.25000 | 2.25000 | 2.250 | 2.250 |
| | 4 | 24 | 1.91667 | .779028 | .159018 | 1.58771 | 2.24562 | 1.000 | 4.500 |
| | 5 | 17 | 1.76471 | .640255 | .155285 | 1.43552 | 2.09389 | 1.000 | 3.000 |
| | Total | 304 | 2.19243 | .738482 | .042355 | 2.10909 | 2.27578 | 1.000 | 5.000 |
| Technical Skills | 1 | 247 | 2.55178 | .635661 | .040446 | 2.47212 | 2.63145 | 1.000 | 4.714 |
| | 2 | 14 | 2.18357 | .624908 | .167014 | 1.82276 | 2.54438 | 1.429 | 3.571 |
| | 3 | 2 | 2.64250 | .101116 | .071500 | 1.73401 | 3.55099 | 2.571 | 2.714 |
| | 4 | 24 | 2.06554 | .624763 | .127529 | 1.80173 | 2.32936 | 1.000 | 3.429 |
| | 5 | 17 | 2.15971 | .779072 | .188953 | 1.75914 | 2.56027 | 1.286 | 4.429 |
| | Total | 304 | 2.47511 | .659009 | .037797 | 2.40073 | 2.54949 | 1.000 | 4.714 |

Table 4 shows the descriptive measures of online learning readiness factors across the learning styles, “1” for Auditory, “2” for Kinesthetic, and “3” for Visual. The results showed that the students of different learning styles inclined to have a “strongly agree” perspective about CS-E, with mean scores ranging from 1.81066 to 1.88219. An “agree” perspective was reflected towards AC (mean = 2.19243) and TS (mean = 2.47511), while an “undecided” perspective was reflected on LP (mean = 3.12389).

*Table 4: Descriptive statistics of online learning readiness across the learning styles*

| | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | | |
| Computer Self-efficacy | 1 | 38 | 1.84645 | .752831 | .122125 | 1.59900 | 2.09390 | 1.000 | 4.667 |
| | 2 | 191 | 1.81066 | .682351 | .049373 | 1.71327 | 1.90805 | 1.000 | 4.667 |
| | 3 | 75 | 1.88219 | .872838 | .100787 | 1.68136 | 2.08301 | 1.000 | 5.000 |
| | Total | 304 | 1.83278 | .740383 | .042464 | 1.74922 | 1.91634 | 1.000 | 5.000 |
| Learning Preferences | 1 | 38 | 3.30266 | .981742 | .159260 | 2.97997 | 3.62535 | 1.000 | 5.000 |
| | 2 | 191 | 3.12998 | .936805 | .067785 | 2.99628 | 3.26369 | 1.000 | 5.000 |
| | 3 | 75 | 3.01779 | .922873 | .106564 | 2.80545 | 3.23012 | 1.000 | 5.000 |
| | Total | 304 | 3.12389 | .939590 | .053889 | 3.01784 | 3.22993 | 1.000 | 5.000 |
| Attitudes towards Computers | 1 | 38 | 2.21711 | .678261 | .110028 | 1.99417 | 2.44004 | 1.000 | 4.250 |
| | 2 | 191 | 2.18848 | .719428 | .052056 | 2.08580 | 2.29116 | 1.000 | 5.000 |
| | 3 | 75 | 2.19000 | .820802 | .094778 | 2.00115 | 2.37885 | 1.000 | 5.000 |
| | Total | 304 | 2.19243 | .738482 | .042355 | 2.10909 | 2.27578 | 1.000 | 5.000 |
| Technical Skills | 1 | 38 | 2.53392 | .663968 | .107710 | 2.31568 | 2.75216 | 1.286 | 3.857 |
| | 2 | 191 | 2.47870 | .591846 | .042824 | 2.39422 | 2.56317 | 1.000 | 4.714 |
| | 3 | 75 | 2.43617 | .809388 | .093460 | 2.24995 | 2.62240 | 1.000 | 4.571 |
| | Total | 304 | 2.47511 | .659009 | .037797 | 2.40073 | 2.54949 | 1.000 | 4.714 |

Table 5 shows the descriptive statistics of online learning readiness factors across the course year levels, "1" for Pre-U, "2" for 1st year, "3" for 2nd year, "4" for 3rd year, and "5" for 4th year. The table demonstrates that the students of different course year levels tended to reflect a "strongly agree" perspective towards CS-E (mean = 1.83278), while they had an "undecided" perspective on LP (mean = 3.12389). Moreover, the students had an "agree" perspective about AC (mean = 2.19243) and TS (mean = 2.47511).

*Table 5: Descriptive statistics of online learning readiness across the course year levels*

| | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | | |
| Computer Self-efficacy | 1 | 77 | 1.78569 | .434130 | .049474 | 1.68715 | 1.88422 | 1.000 | 3.000 |
| | 2 | 64 | 1.80728 | .623789 | .077974 | 1.65146 | 1.96310 | 1.000 | 3.833 |
| | 3 | 93 | 1.98928 | .993601 | .103032 | 1.78465 | 2.19391 | 1.000 | 5.000 |
| | 4 | 46 | 1.64852 | .665075 | .098060 | 1.45102 | 1.84602 | 1.000 | 4.667 |
| | 5 | 24 | 1.79863 | .735618 | .150157 | 1.48800 | 2.10925 | 1.000 | 4.167 |
| | Total | 304 | 1.83278 | .740383 | .042464 | 1.74922 | 1.91634 | 1.000 | 5.000 |
| Learning Preferences | 1 | 77 | 3.19477 | .755742 | .086125 | 3.02323 | 3.36630 | 1.000 | 5.000 |
| | 2 | 64 | 3.21877 | .875321 | .109415 | 3.00012 | 3.43741 | 1.000 | 5.000 |
| | 3 | 93 | 3.35840 | .887713 | .092052 | 3.17558 | 3.54122 | 1.000 | 5.000 |
| | 4 | 46 | 3.13767 | .971392 | .143224 | 2.84921 | 3.42614 | 1.000 | 5.000 |
| | 5 | 24 | 1.70833 | .538992 | .110021 | 1.48074 | 1.93593 | 1.000 | 3.000 |
| | Total | 304 | 3.12389 | .939590 | .053889 | 3.01784 | 3.22993 | 1.000 | 5.000 |
| Attitudes towards Computers | 1 | 77 | 2.18831 | .596255 | .067950 | 2.05298 | 2.32364 | 1.000 | 4.500 |
| | 2 | 64 | 2.21484 | .688435 | .086054 | 2.04288 | 2.38681 | 1.000 | 4.500 |
| | 3 | 93 | 2.23656 | .818739 | .084899 | 2.06794 | 2.40518 | 1.000 | 5.000 |
| | 4 | 46 | 2.15217 | .824079 | .121504 | 1.90745 | 2.39690 | 1.000 | 5.000 |
| | 5 | 24 | 2.05208 | .817536 | .166879 | 1.70687 | 2.39730 | 1.000 | 4.000 |
| | Total | 304 | 2.19243 | .738482 | .042355 | 2.10909 | 2.27578 | 1.000 | 5.000 |
| Technical Skills | 1 | 77 | 2.54175 | .517844 | .059014 | 2.42422 | 2.65929 | 1.429 | 4.429 |
| | 2 | 64 | 2.55133 | .673826 | .084228 | 2.38301 | 2.71964 | 1.000 | 4.571 |
| | 3 | 93 | 2.51771 | .753796 | .078165 | 2.36247 | 2.67295 | 1.000 | 4.714 |
| | 4 | 46 | 2.23293 | .581109 | .085680 | 2.06037 | 2.40550 | 1.286 | 3.714 |
| | 5 | 24 | 2.35713 | .698453 | .142571 | 2.06219 | 2.65206 | 1.000 | 3.714 |
| | Total | 304 | 2.47511 | .659009 | .037797 | 2.40073 | 2.54949 | 1.000 | 4.714 |

Table 6 demonstrates the descriptive measures of online learning readiness factors across the financial aid status, "1" receiving a financial aid and "2" for not receiving a financial aid. The results revealed that the students of different financial aid status inclined to reflect an "agree" perspective on AC (mean = 2.19243) and TS (mean = 2.47511), and a "strongly agree" perspective about CS-E (mean =1.83278). However, they had an "undecided" perspective towards LP (mean = 3.12389).

*Table 6: Descriptive statistics of online learning readiness across the financial aid status*

| | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | | |
| Computer Self-efficacy | 1 | 76 | 1.75441 | .709504 | .081386 | 1.59228 | 1.91654 | 1.000 | 4.667 |
| | 2 | 228 | 1.85891 | .750088 | .049676 | 1.76102 | 1.95679 | 1.000 | 5.000 |
| | Total | 304 | 1.83278 | .740383 | .042464 | 1.74922 | 1.91634 | 1.000 | 5.000 |
| Learning Preferences | 1 | 76 | 2.85743 | 1.114138 | .127800 | 2.60284 | 3.11203 | 1.000 | 5.000 |
| | 2 | 228 | 3.21271 | .858246 | .056839 | 3.10071 | 3.32471 | 1.000 | 5.000 |
| | Total | 304 | 3.12389 | .939590 | .053889 | 3.01784 | 3.22993 | 1.000 | 5.000 |
| Attitudes towards Computers | 1 | 76 | 2.13487 | .714657 | .081977 | 1.97156 | 2.29817 | 1.000 | 4.250 |
| | 2 | 228 | 2.21162 | .746804 | .049458 | 2.11417 | 2.30908 | 1.000 | 5.000 |
| | Total | 304 | 2.19243 | .738482 | .042355 | 2.10909 | 2.27578 | 1.000 | 5.000 |
| Technical Skills | 1 | 76 | 2.34209 | .721609 | .082774 | 2.17720 | 2.50699 | 1.000 | 4.714 |
| | 2 | 228 | 2.51945 | .632260 | .041872 | 2.43694 | 2.60196 | 1.000 | 4.571 |
| | Total | 304 | 2.47511 | .659009 | .037797 | 2.40073 | 2.54949 | 1.000 | 4.714 |

## Results of a One-way Analysis of Variance (ANOVA)

To determine if there were any significant mean differences of dependent variables based on participants' gender, ethnicity, learning style, education level and financial aid status, ANOVA was completed. Independent variables were gender, ethnicity, learning style, course year level and financial aid status. The mean differences of the four significant dependent variables (TS, CS-E, LP and AC) based on the independent variables, gender, ethnicity, learning style, course year level, and financial aid status, were compared using ANOVA.

Research Question 1:
Will there be significant differences in online learning readiness based on the participants' gender?
$H_0$: There will be no significant differences in online learning readiness based on the participants' gender.
$H_1$: There will be significant differences in online learning readiness based on the participants' gender.

As shown in Table 7, the results revealed that there was significant mean difference of learning preferences, $F(1, 302) = 8.580$, $p = 0.004$, based on the participants' gender. Given that $p < 0.05$ the null hypothesis was rejected and the alternative hypothesis was accepted, which stated that learning preferences were significantly different across gender. In contrast, there were no significant mean differences in computer self-efficacy, $F(1, 302) = 1.851$, $p = 0.175$, attitudes towards computers, $F(1, 302) = 0.046$, $p = 0.830$, and technical skills, $F(1, 302) = 2.884$, $p = 0.091$, based on gender. Thus, given $p > 0.05$ the null hypotheses were accepted, which revealed no significant differences of CS-E, AC and TS for gender.

*Table 7: ANOVA analyses of online learning readiness based on gender*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Computer Self-efficacy | Between Groups | 1.012 | 1 | 1.012 | 1.851 | .175 |
| | Within Groups | 165.083 | 302 | .547 | | |
| | Total | 166.095 | 303 | | | |
| Learning Preferences | Between Groups | 7.390 | 1 | 7.390 | 8.580 | .004 |
| | Within Groups | 260.108 | 302 | .861 | | |
| | Total | 267.497 | 303 | | | |
| Attitudes towards Computers | Between Groups | .025 | 1 | .025 | .046 | .830 |
| | Within Groups | 165.217 | 302 | .547 | | |
| | Total | 165.243 | 303 | | | |
| Technical Skills | Between Groups | 1.245 | 1 | 1.245 | 2.884 | .091 |
| | Within Groups | 130.346 | 302 | .432 | | |
| | Total | 131.591 | 303 | | | |

Research Question 2:
Will there be significant differences in online learning readiness based on the participants' ethnicity?
$H_0$: There will be no significant differences in online learning readiness based on the participants' ethnicity.
$H_2$: There will be significant differences in online learning readiness based on the participants' ethnicity.
The ANOVA analyses, shown in Table 8, revealed significant differences of learning preferences, $F(4, 299) = 2.474$, $p = 0.45$, attitudes towards computers, $F(4, 299) = 2.793$, $p = 0.027$, and technical skills, $F(4, 299) = 5.107$, $p = 0.001$, based on ethnicity. Since $p < 0.05$, the alternative hypotheses were accepted, which indicated that there were significant effects of ethnic groups on LP, AC and TS. However, there was no significant difference of computer self-efficacy, $F(4, 299) = 1.612$, $p = .171$, based on ethnicity. Thus, the null hypothesis was accepted since $p > 0.05$.

*Table 8: ANOVA analyses of online learning readiness based on ethnicity*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Computer Self-efficacy | Between Groups | 3.506 | 4 | .876 | 1.612 | .171 |
| | Within Groups | 162.589 | 299 | .544 | | |
| | Total | 166.095 | 303 | | | |
| Learning Preferences | Between Groups | 8.568 | 4 | 2.142 | 2.474 | .045 |
| | Within Groups | 258.929 | 299 | .866 | | |
| | Total | 267.497 | 303 | | | |
| Attitudes towards Computers | Between Groups | 5.951 | 4 | 1.488 | 2.793 | .027 |
| | Within Groups | 159.292 | 299 | .533 | | |
| | Total | 165.243 | 303 | | | |
| Technical Skills | Between Groups | 8.415 | 4 | 2.104 | 5.107 | .001 |
| | Within Groups | 123.176 | 299 | .412 | | |
| | Total | 131.591 | 303 | | | |

Research Question 3:
Will there be significant differences in online learning readiness based on the participants' learning style?
$H_0$: There will be no significant differences in online learning readiness based on the participants' learning style.
$H_3$: There will be significant differences in online learning readiness based on the participants' learning style.
The analyses show that none of the dependent variables revealed significant differences for learning style: CS-E, $F(2, 301) = 0.257$, $p = 0.773$; LP, $F(2, 301) = 1.171$, $p = 0.311$; AC, $F(2, 301) = 0.024$, $p = 0.976$; TS, $F(2, 301) = 0.284$, $p = 0.753$, and thus the alternative hypotheses were rejected for $p > 0.05$. Table 9 shows the details of the ANOVA analyses.

*Table 9: ANOVA analyses of online learning readiness based on learning style*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Computer Self-efficacy | Between Groups | .284 | 2 | .142 | .257 | .773 |
| | Within Groups | 165.811 | 301 | .551 | | |
| | Total | 166.095 | 303 | | | |
| Learning Preferences | Between Groups | 2.066 | 2 | 1.033 | 1.171 | .311 |
| | Within Groups | 265.431 | 301 | .882 | | |
| | Total | 267.497 | 303 | | | |
| Attitudes towards Computers | Between Groups | .027 | 2 | .013 | .024 | .976 |
| | Within Groups | 165.216 | 301 | .549 | | |
| | Total | 165.243 | 303 | | | |
| Technical Skills | Between Groups | .248 | 2 | .124 | .284 | .753 |
| | Within Groups | 131.343 | 301 | .436 | | |
| | Total | 131.591 | 303 | | | |

Research Question 4:
Will there be significant differences in online learning readiness based on the participants' course year level?
$H_0$: There will be no significant differences in online learning readiness based on the participants' course year level.
$H_4$: There will be significant differences in online learning readiness based on the participants' course year level.
No significant differences were noted for course year level in computer self-efficacy, $F(4, 299) = 1.882$, $p = 0.113$, attitudes towards computers, $F(4, 299) = 0.346$, $p = 0.847$, and technical skills, $F(4, 299) = 2.292$, $p = 0.060$. Hence, the alternative hypotheses were rejected. Besides, there is strong evidence showing that there was significant mean difference of learning preferences, $F(4, 299) = 18.984$, $p = 0.000$, based on course year level. The results are shown in Table 10.

*Table 10: ANOVA analyses of online learning readiness based on course year level*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Computer Self-efficacy | Between Groups | 4.080 | 4 | 1.020 | 1.882 | .113 |
| | Within Groups | 162.015 | 299 | .542 | | |
| | Total | 166.095 | 303 | | | |
| Learning Preferences | Between Groups | 54.177 | 4 | 13.544 | 18.984 | .000 |
| | Within Groups | 213.320 | 299 | .713 | | |
| | Total | 267.497 | 303 | | | |
| Attitudes towards Computers | Between Groups | .762 | 4 | .190 | .346 | .847 |
| | Within Groups | 164.481 | 299 | .550 | | |
| | Total | 165.243 | 303 | | | |
| Technical Skills | Between Groups | 3.914 | 4 | .979 | 2.292 | .060 |
| | Within Groups | 127.676 | 299 | .427 | | |
| | Total | 131.591 | 303 | | | |

Research Question 5:
Will there be significant differences in online learning readiness based on the participants' financial status?
$H_0$: There will be no significant differences in online learning readiness based on the participants' financial status.
$H_5$: There will be significant differences in online learning readiness based on the participants' financial status.
The statistical analyses show that there were significant differences of learning preferences, $F(1, 302) = 8.347$, $p = 0.004$, and technical skills, $F(1, 302) = 4.172$, $p = 0.042$, for financial aid status, and thus the null hypotheses were rejected. On the other hand, it is evident that there were no significant differences of computer self-efficacy, $F(1, 302) = 1.136$, $p = 0.287$, and attitudes towards computers, $F(1, 302) = 0.615$, $p = 0.434$, across financial aid status. Table 11 shows the details of the analyses.

*Table 11: ANOVA analyses of online learning readiness based on financial aid status*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Computer Self-efficacy | Between Groups | .622 | 1 | .622 | 1.136 | .287 |
| | Within Groups | 165.472 | 302 | .548 | | |
| | Total | 166.095 | 303 | | | |
| Learning Preferences | Between Groups | 7.194 | 1 | 7.194 | 8.347 | .004 |
| | Within Groups | 260.303 | 302 | .862 | | |
| | Total | 267.497 | 303 | | | |
| Attitudes towards Computers | Between Groups | .336 | 1 | .336 | .615 | .434 |
| | Within Groups | 164.907 | 302 | .546 | | |
| | Total | 165.243 | 303 | | | |
| Technical Skills | Between Groups | 1.793 | 1 | 1.793 | 4.172 | .042 |
| | Within Groups | 129.798 | 302 | .430 | | |
| | Total | 131.591 | 303 | | | |

## Results of Post Hoc Test

To locate where the significance lies between the groups of independent variables, a Post Hoc test was conducted. The mean difference is significant at the 0.05 level.

As shown in Table 12, significant differences in the means were detected between Chinese and foreign students for LP, as well as between Chinese and Malaysian ethnic students for TS. This indicates that foreign students had significantly lower LP than Chinese students, who had significantly lower TS than Malaysian ethnic students. However, the results revealed no significant differences in the means between the groups of learning style for all dependent variables as shown in Table 13.

*Table 12: Results of Turkey HSD test between the groups of ethnicity*

| Dependent Variable | (I) Ethnic group | (J) Ethnic group | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound |
| Learning Preferences | 1 | 2 | .12320 | .255660 | .989 | -.57847 | .82486 |
| | | 3 | .07555 | .660680 | 1.000 | -1.73769 | 1.88880 |
| | | 4 | -.20228 | .198969 | .848 | -.74835 | .34380 |
| | | 5 | -.68909* | .233337 | .028 | -1.32949 | -.04869 |
| | 2 | 1 | -.12320 | .255660 | .989 | -.82486 | .57847 |
| | | 3 | -.04764 | .703454 | 1.000 | -1.97829 | 1.88300 |
| | | 4 | -.32548 | .312951 | .837 | -1.18438 | .53342 |
| | | 5 | -.81229 | .335851 | .113 | -1.73404 | .10946 |
| | 3 | 1 | -.07555 | .660680 | 1.000 | -1.88880 | 1.73769 |
| | | 2 | .04764 | .703454 | 1.000 | -1.88300 | 1.97829 |
| | | 4 | -.27783 | .684890 | .994 | -2.15753 | 1.60186 |
| | | 5 | -.76465 | .695652 | .807 | -2.67388 | 1.14458 |
| | 4 | 1 | .20228 | .198969 | .848 | -.34380 | .74835 |
| | | 2 | .32548 | .312951 | .837 | -.53342 | 1.18438 |
| | | 3 | .27783 | .684890 | .994 | -1.60186 | 2.15753 |
| | | 5 | -.48681 | .294996 | .467 | -1.29644 | .32281 |
| | 5 | 1 | .68909* | .233337 | .028 | .04869 | 1.32949 |
| | | 2 | .81229 | .335851 | .113 | -.10946 | 1.73404 |
| | | 3 | .76465 | .695652 | .807 | -1.14458 | 2.67388 |
| | | 4 | .48681 | .294996 | .467 | -.32281 | 1.29644 |
| Technical Skills | 1 | 2 | .36821 | .176333 | .228 | -.11574 | .85216 |
| | | 3 | -.09072 | .455683 | 1.000 | -1.34135 | 1.15991 |
| | | 4 | .48624* | .137233 | .004 | .10960 | .86288 |
| | | 5 | .39208 | .160937 | .109 | -.04962 | .83377 |
| | 2 | 1 | -.36821 | .176333 | .228 | -.85216 | .11574 |
| | | 3 | -.45893 | .485186 | .879 | -1.79053 | .87267 |
| | | 4 | .11803 | .215849 | .982 | -.47437 | .71043 |
| | | 5 | .02387 | .231643 | 1.000 | -.61188 | .65961 |
| | 3 | 1 | .09072 | .455683 | 1.000 | -1.15991 | 1.34135 |
| | | 2 | .45893 | .485186 | .879 | -.87267 | 1.79053 |
| | | 4 | .57696 | .472382 | .739 | -.71950 | 1.87342 |
| | | 5 | .48279 | .479805 | .852 | -.83404 | 1.79963 |
| | 4 | 1 | -.48624* | .137233 | .004 | -.86288 | -.10960 |
| | | 2 | -.11803 | .215849 | .982 | -.71043 | .47437 |
| | | 3 | -.57696 | .472382 | .739 | -1.87342 | .71950 |
| | | 5 | -.09416 | .203465 | .991 | -.65258 | .46425 |
| | 5 | 1 | -.39208 | .160937 | .109 | -.83377 | .04962 |
| | | 2 | -.02387 | .231643 | 1.000 | -.65961 | .61188 |
| | | 3 | -.48279 | .479805 | .852 | -1.79963 | .83404 |
| | | 4 | .09416 | .203465 | .991 | -.46425 | .65258 |

*. The mean difference is significant at the .05 level.

*Table 13: Results of Turkey HSD test between the groups of learning style*

| Dependent Variable | (I) Learning style | (J) Learning style | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval Lower Bound | 95% Confidence Interval Upper Bound |
|---|---|---|---|---|---|---|---|
| Computer Self-efficacy | 1 | 2 | .03578 | .131836 | .960 | -.27474 | .34630 |
| | | 3 | -.03574 | .147788 | .968 | -.38384 | .31236 |
| | 2 | 1 | -.03578 | .131836 | .960 | -.34630 | .27474 |
| | | 3 | -.07152 | .101139 | .759 | -.30974 | .16670 |
| | 3 | 1 | .03574 | .147788 | .968 | -.31236 | .38384 |
| | | 2 | .07152 | .101139 | .759 | -.16670 | .30974 |
| Learning Preferences | 1 | 2 | .17267 | .166802 | .555 | -.22021 | .56556 |
| | | 3 | .28487 | .186986 | .281 | -.15555 | .72529 |
| | 2 | 1 | -.17267 | .166802 | .555 | -.56556 | .22021 |
| | | 3 | .11220 | .127964 | .655 | -.18920 | .41360 |
| | 3 | 1 | -.28487 | .186986 | .281 | -.72529 | .15555 |
| | | 2 | -.11220 | .127964 | .655 | -.41360 | .18920 |
| Attitudes towards Computers | 1 | 2 | .02862 | .131599 | .974 | -.28134 | .33859 |
| | | 3 | .02711 | .147523 | .982 | -.32037 | .37458 |
| | 2 | 1 | -.02862 | .131599 | .974 | -.33859 | .28134 |
| | | 3 | -.00152 | .100957 | 1.000 | -.23931 | .23627 |
| | 3 | 1 | -.02711 | .147523 | .982 | -.37458 | .32037 |
| | | 2 | .00152 | .100957 | 1.000 | -.23627 | .23931 |
| Technical Skills | 1 | 2 | .05522 | .117336 | .885 | -.22114 | .33159 |
| | | 3 | .09775 | .131534 | .738 | -.21206 | .40756 |
| | 2 | 1 | -.05522 | .117336 | .885 | -.33159 | .22114 |
| | | 3 | .04252 | .090015 | .884 | -.16950 | .25454 |
| | 3 | 1 | -.09775 | .131534 | .738 | -.40756 | .21206 |
| | | 2 | -.04252 | .090015 | .884 | -.25454 | .16950 |

In Table 14, the statistical results showed that significant differences in the means were detected among all course year levels for LP. That is, Pre-U through Year 3 students had significantly lower LP than Year 4 students.

*Table 14: Results of Turkey HSD test between the groups of course year level*

| Dependent Variable | (I) Year level | (J) Year level | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval Lower Bound | 95% Confidence Interval Upper Bound |
|---|---|---|---|---|---|---|---|
| Learning Preferences | 1 | 2 | -.02400 | .142874 | 1.000 | -.41612 | .36812 |
| | | 3 | -.16363 | .130142 | .718 | -.52081 | .19355 |
| | | 4 | .05709 | .157401 | .996 | -.37490 | .48908 |
| | | 5 | 1.48643* | .197465 | .000 | .94449 | 2.02838 |
| | 2 | 1 | .02400 | .142874 | 1.000 | -.36812 | .41612 |
| | | 3 | -.13963 | .137182 | .847 | -.51613 | .23687 |
| | | 4 | .08109 | .163270 | .988 | -.36701 | .52919 |
| | | 5 | 1.51043* | .202174 | .000 | .95556 | 2.06530 |
| | 3 | 1 | .16363 | .130142 | .718 | -.19355 | .52081 |
| | | 2 | .13963 | .137182 | .847 | -.23687 | .51613 |
| | | 4 | .22072 | .152253 | .596 | -.19714 | .63859 |
| | | 5 | 1.65006* | .193386 | .000 | 1.11931 | 2.18082 |
| | 4 | 1 | -.05709 | .157401 | .996 | -.48908 | .37490 |
| | | 2 | -.08109 | .163270 | .988 | -.52919 | .36701 |
| | | 3 | -.22072 | .152253 | .596 | -.63859 | .19714 |
| | | 5 | 1.42934* | .212689 | .000 | .84561 | 2.01307 |
| | 5 | 1 | -1.48643* | .197465 | .000 | -2.02838 | -.94449 |
| | | 2 | -1.51043* | .202174 | .000 | -2.06530 | -.95556 |
| | | 3 | -1.65006* | .193386 | .000 | -2.18082 | -1.11931 |
| | | 4 | -1.42934* | .212689 | .000 | -2.01307 | -.84561 |

*. The mean difference is significant at the .05 level.

## DISCUSSION AND CONCLUSION

In order to develop and design high-quality online learning environments (OLEs), it is imperative to investigate personal characteristics of successful online learners. In other words, research is needed to discover what will help student succeed in OLEs. This study was designed to investigate the effects of personal characteristics on learner online learning readiness at Curtin University of Technology, Sarawak Malaysia. Specifically, the research questions guiding the study were, "Are there significant differences in online learning readiness across the personal characteristics?" and "Where does the significance lie in online learning readiness?" From this research study, it can be concluded that the students of different personal characteristics tended to strongly agree having computer self-efficacy, while they had an undecided perspective towards learning preferences. In addition, it was found that the students inclined to agree having attitudes towards computers and technical skills.

In addition, it is evident that there was significant difference of learning preferences across four personal characteristics (gender, ethnicity, course year level and financial aid status), indicating that the four personal characteristics significantly affected students' learning preferences. Besides, it was found that there were significant differences of technical skills towards students' ethnicity and financial aid status. That is, students' ethnicity and financial aid status had significant effects on technical skills. Again, there was significant difference of attitudes towards computers across ethnic groups. However, no significant differences were noted for learning style in technical skills, computer self-efficacy, learning preferences and attitudes towards computers, indicating that learning styles had no significant effects on technical skills, computer self-efficacy, learning preferences and attitudes towards computers. Moreover, Chinese students scored significantly lower on learning preferences compared to foreign students, indicating that non Malaysian group may possess lower level of learning preferences than the Malaysian Chinese group. It is revealed that Malaysian Chinese group scored significantly higher on technical skills compared to Malaysian ethnic group. Again, Pre-U through Year 3 students scored significantly higher on learning preferences compared to Year 4 students. That is, Pre-U through Year 3 students may have lower level of learning preferences than Year 4 students.

As Davis and Wong (2007: 97) mentioned, 'online learning (e-Learning) has become a global phenomenon as many organizations and educational institutions worldwide have entered the field in an attempt to enhance the students' experience of learning'. Nowadays students are increasingly distributed globally and have very diverse learning needs and learning styles. So, flexible e-Learning solutions are required to meet their needs. However, 'it is not easy to determine and maintain quality in the process of designing, developing, and delivering these online learning opportunities for educational institutions' (Yukselturk & Bulut 2007). This study has identified some personal characteristics necessary for students' achievement and satisfaction in an online learning environment. Through this, potential barriers to student achievement, satisfaction or completion in OLEs can be detected and necessary measures can be taken to develop resources and strategies to address their needs. Because online learning is a relatively new phenomenon, particularly in many educational institutions, research is continually being conducted to develop a better understanding of the various aspects of OLEs. One aspect, significant personal characteristics of successful online learners, is constantly being studied to get a complete understanding of why some students are less satisfied with online learning. Moreover, this study will add to the body of knowledge of successful online learners' personal characteristics, effective OLEs, as well as research on online education. The identification of significant dependant variables can give educational institution administrators the ability to identify characteristics of students that may have a negative influence on their likelihood to persist in their online courses.

## Limitations and Suggestions for Future Research

As Harrell (2006) mentioned, "every research study, particularly educational research, is limited in some way". Many of the survey items will ask to recall and assess their previous characteristics. This could result in responses that are not truly reflective of the student's characteristics during the time of the survey. Furthermore, a larger sample size with more classrooms involved will provide more valid and reliable information relevant to the questions asked in this study. Also, based on the methodology adopted, the Post Hoc test should be performed to compare the means of more than two groups or levels of an independent variable (Coakes & Steed 2003). However, there were only two groups for gender and financial aid status, and hence the Post Hoc tests were not performed.

Although the data analyses for this study resulted in some personal characteristics that were significant factors to affect online learning readiness, research in this area must be continued to ensure that these personal characteristics are significant in other study samples, including other community colleges within and outside Malaysia. While conducting the research, it is also beneficial to consider other personal characteristics (i.e., age, marital status, locus of control, motivational beliefs, no. of children, self-regulated learning components, computer experience and access, and previous online experience)

and qualitative feedback to deepen the understanding of significant factors towards online learning readiness.
This remains research for the future.

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